

Moreover, the present application claims benefit of the filing date of a Japanese priority application filed on February 3, 2004. A certified English translation of the Japanese priority application is of record in this application. Benefit is respectfully requested.

Since the priority date of the present application, February 3, 2004, is prior to the publication date of Kuroda, that reference is not available as prior art against the present application under 35 U.S.C. §102(a).

In view of the foregoing, Kuroda is not available as prior art against the present application under 35 U.S.C. §102. Accordingly, the rejection is unsustainable and should be withdrawn.

Applicants note the Examiner's comments regarding the Shoji reference at paragraph (11) of the Office Action. Applicants would like to point out that the Examiner applied Shoji in the Office Action dated February 8, 2011. Applicants overcame that rejection with the remarks submitted in the Amendment and Request for Reconsideration filed on April 20, 2011. Those remarks are summarized below for the Examiner's convenience.

Regarding Claim 36, Shoji teaches that an aluminum fin material for heat exchanger excelled in formability and brazability, comprising: 1.0 to 2.0 mass% of Mn, 0.5 to 1.3 mass% of Si, 0.1 to 0.8 mass% of Fe, 0.06 to 0.2 mass% of Cu, 0.5 to 3.0 mass% of Zn, and a ratio of Mn/Si content is from 1.0 to 3.5, and further comprising at least one or two of 0.05 to 0.3 mass% of Zr and/or 0.05 to 0.3 mass% of Cr, and remainder being unavoidable impurities and Al, where the aluminum fin material has a tensile strength is 160 to 270 MPa.

Shoji teaches (paragraph [0015]) that Cu in a fin material raises the strength of the fin material before soldering and after soldering, and it improves formability. Shoji further teaches the desirable content of Cu is 0.06 mass% - 0.2 mass%. The effect is small at less than 0.06 mass% and if 0.2 mass% is exceeded, the potential of a fin material will be noble and the sacrificial anode effect of a fin will be reduced.

A person of ordinary skill in the art, upon reading Shoji at the time the present invention was made, would have been discouraged from reducing the amount of Cu to less than 0.06 mass% in alloy 6 taught by Shoji in order to prevent the strength of the fin material before soldering and after soldering from decreasing and to prevent formability from deteriorating.

Shoji fails to teach or suggest the combined technical features of a tensile strength before brazing of at most 240 MPa, a tensile strength after brazing of 150 MPa or more and a recrystallized grain size after brazing of 500 μm or more, as specified in Claim 36, where the amounts of Mg and Cu are limited to at most 0.05 wt% and 0.02 wt% or less, respectively. Thus, a prima facie case of obviousness has not been established with respect to Claim 36.

Regarding Claims 51 and 54, Shoji teaches that an aluminum fin material for heat exchanger excelled in formability and brazability, comprising: Mn: 1.0 to 2.0 mass%, Si: 0.5 to 1.3 mass%, Fe: 0.1 to 0.8 mass%, Cu: 0.06 to 0.2 mass%, Zn: 0.5 to 3.0 mass%, and a ratio of Mn/Si is from 1.0 to 3.5, and further comprising at least one or two of Zr: 0.05 to 0.3 mass% and/or Cr: 0.05 to 0.3 mass%, and the remainder being unavoidable impurities and Al, where the aluminum fin material has a tensile strength is 160 to 270 MPa.

Shoji teaches that for a material of No. 16 (alloy 14), a fin material with good quality could not be manufactured due to difficulty in hot rolling since it contained high amount of Mn (paragraph [0040]). Further, Shoji teaches that the composition of alloy 14 is outside the claimed range of Shoji so that the fin material of No. 16 having the composition of alloy 14 is a comparable example.

Shoji teaches that the effect is small at less than 1.0 mass% of Mn, and if contained exceeding 2.0 mass% of Mn, crystallized material big and rough at the time of casting will generate, manufacture of a plate will become difficult, further, the amount of Mn in solid solution increases and thermal conductivity falls (paragraph [0011]).

One of ordinary skill in the art, upon reading Shoji at the time the present invention was made, would not have cast a slab having said composition of alloy containing over 2.0 mass% of Mn as taught by Shoji since a fin material with good quality could not be manufactured due to difficulty in hot rolling and thermal conductivity falls due to high amount of Mn in solid solution in matrix even if a fin material is unfortunately obtained, according to Shoji.

Shoji fails to teach or suggest the combined technical features of a tensile strength before brazing of at most 240 MPa, a tensile strength after brazing of 150 MPa or more and a recrystallized grain size after brazing of 500 μm or more containing 2.2-3.0 wt% of Mn, 0.5-2.5 wt% of Zn, and at most 0.05 wt% of Mg, as specified in Claim 51.

Shoji fails to teach or suggest the combined technical features of a tensile strength before brazing of at most 240 MPa, a tensile strength after brazing of 150 MPa or more and a recrystallized grain size after brazing of 500 μm or more containing, 2.33-3.0 wt% of Mn, 0.5-2.5 wt% of Zn, and at most 0.05 wt% of Mg, as specified in Claim 54. Thus, a *prima facie* case of obviousness has not been established in this case with respect to either Claim 51 or Claim 54.

In addition, obviousness cannot be sustained by mere conclusive statements of one's own personal understanding or experience, or on the assessment of what would be basic knowledge or common sense, rather, the Office Action must point out some concrete evidence in the record to support a legal conclusion of obviousness (MPEP §2144.03).

Further, it is well settled in U.S. Patent law that a reference is said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant (MPEP §2141.02(IV) and §2145(X)(D)).

Moreover, if the proposed modification would render the prior art invention being modified unsatisfactory or inoperable for its intended purposes, then there is no suggestion or motivation to make the proposed modification (MPEP §2143.01(V)).

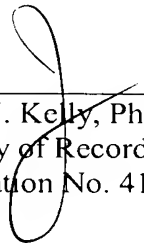
Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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